

IN THE CLAIMS

1. (Currently Amended) An optical network, comprising:
an optical ring;
a plurality of local nodes coupled to the optical ring;
each local node of the plurality of local nodes configured to receive traffic at an assigned wavelength, disparate from wavelengths assigned to other local nodes; and
a data center node coupled to the optical ring and operable to provide a centralized storage of data for the local nodes, receive traffic from the plurality of local nodes including requests for data, retrieve the requested data from the centralized storage associated with the data center node, ~~sort at least some of the traffic~~ the requested data by destination, and transmit the requested data as traffic to a corresponding destination local node at the assigned wavelength for that local node.
2. (Canceled)
3. (Original) The optical network of Claim 1, wherein the optical ring comprises bi-directional pathways.
4. (Original) The optical network of Claim 1, wherein the plurality of local nodes are further operable to pass through traffic at wavelengths disparate from assigned wavelengths without optical-to-electrical conversion.
5. (Original) The optical network of Claim 1, wherein the data center node comprises a switch operable to selectively pass the traffic to a transmitter transmitting at the assigned wavelength.
6. (Currently Amended) The optical network of Claim 1, wherein the data center node comprises a services module operable to process a request for data and ~~provided~~ provide the requested data.

7. (Original) The optical network of Claim 6, wherein the requested data comprises audiovisual content.

8. (Currently Amended) The optical network of Claim 1, wherein at least one of the plurality of local nodes is a hub node operable to selectively pass and terminate individual traffic streams.

9. (Original) The optical network of Claim 8, wherein the hub node is a first hub node and is coupled to a second hub node associated with a second optical ring.

10. (Original) The optical network of Claim 9, wherein the destination node is located on the second optical ring.

11. (Currently Amended) A data center node, comprising:
a plurality of receivers operable to receive traffic ~~including information identifying a destination node~~ from a plurality of nodes including requests for data;
a data center operable to:
provide a centralized storage of data for the plurality of nodes;
retrieve requested data from the centralized storage;
sort the requested data by destination node;
selectively pass the ~~traffic~~ requested data to a transmitter associated with the destination node; and
a plurality of transmitters operable to transmit the requested data as traffic at a wavelength assigned to the destination node.

12. (Original) The data center node of Claim 11, wherein the data center comprises a switch operable to selectively pass the traffic to a transmitter transmitting at the assigned wavelength.

13. (Original) The data center node of Claim 11, wherein the data center comprises a services module operable to process a request for data and provide the requested data.

14. (Original) The data center node of Claim 13, wherein the requested data comprises audiovisual content.

15. (Currently Amended) A method of transmitting traffic in an optical network, comprising:

receiving traffic from a plurality of local nodes at a data center node coupled to an optical ring, the traffic including requests for data;

retrieving the requested data from a centralized storage associated with the data center node;

sorting the ~~traffic~~ requested data by destination local node;

transmitting the requested data as traffic at a wavelength assigned to the destination local node; and

receiving traffic at the destination local node at the assigned wavelength and passing through traffic not at the assigned wavelength.

16. (Original) The method of Claim 15, wherein the assigned wavelength is disparate from wavelengths assigned to other local nodes.

17. (Canceled)

18. (Canceled)

19. (Original) The method of Claim 15, further comprising:
transmitting traffic in a first direction in the optical ring; and
transmitting traffic in a second direction in the optical ring.

20. (Original) The method of Claim 15, further comprising selectively positioning a set of switches in each local node to provide protection switching in response to a fault occurring in the optical rings.

21. (Original) The method of Claim 15, further comprising dropping traffic to a second optical ring.

22. (Original) The method of Claim 21, wherein the destination node is located on the second optical ring.

23. (Currently Amended) A system for transmitting traffic in an optical network, comprising:

means for receiving traffic from a plurality of local nodes at a data center node coupled to an optical ring, the traffic including requests for data;

means for retrieving the requested data from a centralized storage associated with the data center node;

means for sorting the ~~traffic~~ requested data by destination local node;

means for transmitting the requested data as traffic at a wavelength assigned to the destination local node; and

means for receiving traffic at the destination local node at the assigned wavelength and passing through traffic not at the assigned wavelength.

24. (Canceled)

25. (Canceled)

26. (Original) The system of Claim 23, wherein the optical ring comprises a first and a second optical ring, further comprising means for selectively switching traffic from one ring to the other ring.

27. (Canceled)

28. (Canceled)

29. (Currently Amended) An optical network, comprising:
an optical ring;
a plurality of local nodes coupled to the optical ring;
each local node of the plurality of local nodes configured to receive traffic at an assigned wavelength, disparate from wavelengths assigned to other local nodes;
a primary data center node coupled to the optical ring and operable to provide a centralized storage of data for the local nodes, receive traffic from the plurality of local nodes including requests for data and data to be stored at the data center node, retrieve the requested data from the centralized storage associated with the primary data center node, store data from at least some of the traffic, sort ~~at least some of the traffic~~ the requested data by destination, transmit the ~~sorted~~ requested data as traffic to a corresponding destination local node at the assigned wavelength for that node, and transmit a copy of the stored data to a back-up data center node; and
the back-up data center node operable to receive and store the copy of the stored data transmitted by the primary data center node in response to a back-up event, receive traffic from the plurality of local nodes including requests for the stored data, retrieve the requested data, sort ~~at least some of the traffic~~ the requested data by destination, and transmit the ~~sorted~~ requested data as traffic to a corresponding destination node at the assigned wavelength for that node.

30. (Canceled)

31. (Original) The network of Claim 30, wherein the plurality of nodes are further operable to pass through traffic at wavelengths disparate from assigned wavelengths without optical-to-electrical conversion.

32. (Original) The network of Claim 31, wherein at least one of the plurality of local nodes is a hub node operable to selectively pass and terminate individual traffic streams.

33. (Original) The network of Claim 32, wherein the hub node is a first hub node and is coupled to a second hub node associated with a second optical ring.

34. (Original) The network of Claim 33, wherein the back-up data center node is located on the second ring.

35. (Currently Amended) A method of transmitting traffic in an optical network, comprising:

receiving traffic from a plurality of local nodes at a primary data center node coupled to an optical ring, the traffic including requests for data;

storing data from at least some of the traffic at the primary data center node;

~~copying the stored data;~~

transmitting the copy of the stored data at a wavelength assigned to a back-up data center node for storage at the back-up data center node;

retrieving the requested data from a centralized storage associated with the primary data center node;

sorting the requested data by destination local node; and

transmitting the requested data as traffic at a wavelength assigned to the destination local node.

~~receiving the copy of the stored data transmitted by the primary data center node and passing through traffic not at the assigned wavelength; and~~

~~storing the copy of the stored data at the back-up data center node.~~

36. (Canceled)

37. (Canceled)

38. (Original) The method of Claim 35, wherein the wavelength assigned to the back-up data center node is disparate from wavelengths assigned to other nodes.

39. (Canceled)

40. (Currently Amended) The method of Claim 35, further comprising selectively positioning a set of switches in all nodes to provide protection switching in response to a fault occurring in the optical ~~rings~~ ring.

41. (Canceled)

42. (Canceled)